

What Is Claimed Is:

1. In a communication system receiver, a method of adjusting an outer loop threshold (OLT) for power control comprising:

5 obtaining a frame quality indicator; and
 obtaining a channel quality metric E_b/N_t ;
 if the frame quality indicator is equal to a logic zero,
 obtaining an average E_b/N_t ($avgE_bN_t$); and
 using E_b/N_t and $avgE_bN_t$ to calculate a stepsize used to
10 increase the OLT.

2. The method of claim 1 wherein the stepsize is calculated using the equation $upDelta = baseUpDelta \cdot (E_b/N_t) / avgE_bN_t$ and wherein $baseUpDelta$ is a predetermined scaling factor.

15 3. The method of claim 2 wherein the OLT is increased using the equation $OLT(n) = OLT(n-1) \times upDelta$.

20 4. The method of claim 1 wherein the channel quality metric E_b/N_t is calculated using the equation $E_b/N_t = (\sum_{i=1}^N \text{sgn}(Out(i)) \cdot \ln(i))^2 / (\sum_{i=1}^N \ln(i)^2 - (\sum_{i=1}^N \text{sgn}(Out(i)) \cdot \ln(i))^2)$.

5. In a communication system receiver having a target frame error rate (tFER), a method of adjusting an outer loop threshold (OLT) for power control comprising:

obtaining a frame quality indicator; and

5 if the frame quality indicator is equal to a logic one for an adaptively determined amount of consecutive frames, decreasing the OLT.

6. The method of claim 5 further comprising using the frame quality indicator to calculate a measured frame error rate (mFER) and wherein the
10 amount of frames is adaptively determined using the equation

adaptively determined amount of frames = $mFER/tFER^2$.

7. The method of claim 5 further comprising the steps of:

obtaining channel quality metrics E_b/N_t ;

15 obtaining an average E_b/N_t (avgEbNt);

obtaining a minimum E_b/N_t (minEbNt); and

using avgEbNt and minEbNt to calculate a stepsize used to decrease the OLT.

20 8. The method of claim 7 wherein the stepsize is calculated using the equation $dnDelta = baseDnDelta \cdot avgEbNt / minEbNt$ and wherein baseDnDelta is a predetermined scaling factor.

9. The method of claim 8 wherein the OLT is decreased using the
25 equation $OLT(n) = OLT(n-1) / dnDelta$.

10. In a communication system receiver having a target frame error rate (tFER), a method of adjusting an outer loop threshold (OLT) for power control comprising:

obtaining a frame quality indicator;

5 if the frame quality indicator is not equal to a logic zero and the frame quality indicator is not equal to a logic one for an adaptively determined amount of consecutive frames, adjusting the OLT according to a comparison of a fadeDepth(i) and a fadeDepth(i-1).

10 11. The method of claim 10 wherein the OLT is adjusted using the equation $OLT(i) = OLT(i-1) \cdot \text{floatDelta}$, when $\text{fadeDepth}(i) > \text{fadeDepth}(i-1)$.

12. The method of claim 10 wherein the OLT is adjusted using the equation $OLT(i) = OLT(i-1) / \text{floatDelta}$, when $\text{fadeDepth}(i) < \text{fadeDepth}(i-1)$.

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